

Coins and Computers

NEWSLETTER

No. 3, June 1994

CONFERENCES

October 1994, Taipei. National Museum of History. Multi-media guided system.

Spring 1995. Casa de la Moneda Museum, Madrid. In connection with the International Congress of Monetary Museums. About 200 participants. Open to all interested. For more information contact: Rafael J. Fera or G. Ignacio Acosta, Casa de la Moneda Museum, Jorge Juan 106, E-28071 Madrid, Spain, tel. +341-4092654, fax. +34-1-5042943.

LITERATURE

Nordisk Numismatisk Unions Medlemsblad 1994:5 contains a number of papers from the conference on *Computers and numismatics at the Nordic coin cabinets* held at Isegran 19-20 November 1993. The texts are in Norwegian, Swedish, and Danish (see *CCN* 2, pp. 1-2).

FIELD-TYPES AND DATA-FORMULATION

Each of the first two issues of the *Newsletter* contained helpful tips on the formulation of some concepts basic to most numismatic databases: the first dealt with chronological expressions, the second with denominational values. This note suggests alternatives to those procedures which it is hoped some readers may find equally useful. That particular problems may be handled in more than one way serves only to underline the flexibility of most current software. The choice of solution will depend upon the individual user's needs and circumstances. What follows is based primarily on experience in using a standard x-base relational database package, namely *dBASE III Plus*TM. But the writer's knowledge of the package is not exhaustive, and other users may well have discovered more elegant solutions to particular difficulties. Some of the procedures discussed here have been run under version *IV* of the same package; that should not, however, be understood

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as guaranteeing that every application has been tested. In principle, the same procedures should also work under *Paradox for Windows*TM, although casual use suggests that there are some important differences (apart, that is, from the obvious ones connected with the “platform”).

1. Chronological expressions

The sorts of expression with which this note is concerned are “conventional” dates, issue-dates, and circulation-dates. The first of these corresponds to the “reign” (or similar broad period) to which an issue belongs; the second denotes, as precisely as possible, the period either during which or within which the issue was manufactured; and the third estimates, usually in very approximate terms, the length of an issue’s currency. Each of these is a different concept and, as such, is best entered in a dedicated set of fields. It is not necessary, however, that all three be present in each and every document; so circulation-dates may be appropriate in the case of certain classes of find-material only, and even then as a resource to be applied under a relational setting. But the way the data comprising each of these statements is formulated is identical. They contrast, too, with a year-date appearing on the coin itself; this is an essentially descriptive feature and requires different treatment.

Since most dating of coins takes the form of a statement comprising two years, the substantive expression comprises a pair of numeric fields, each four-characters long. They correspond to “year from” and “year to”. Where the appropriate “answer” is a single year, the same value is entered in both fields.

As a means of simplifying searches and of facilitating exchanges of data with other bodies (especially in the case of a general or universal database), the dates making up all three expressions are converted to years of the Common (i.e. Christian) Era. (No such conversion, however, is made in respect of the year-date present on the coin as part of the type, whether that be a regnal year or a date according to a different era.) In order to sort records in the order appropriate for dates before and after the start of the Common Era (i.e. BC and AD), each main field is paired with a secondary field containing an expression which enables the required condition or filter to be set. The simplest expression is a single-character code of the type “0” = “BC” and “1” = “AD”.

The over-all result is a powerful sort-tool, which not only allows the dates (separately or in combination) to be ordered in either ascending or descending order, but enables the user to search for material issued before or after a given year. Note, too, that this configuration allows material to be sorted by periods of less than a year, provided that the document includes a field for a descriptive statement of the kind “Issue 1”, “Issue 2”, “Issue 3”, etc.. To do so, the data is first copied to a temporary file in the order determined by the contents of this last field; the temporary file is then sorted in the ordinary way under one or more of the standard chronological expressions. The outcome should be a year-by-year hierarchical listing, in which priority is given first to the year-value and then to the issue-value.

Much dating of coins outside the early modern and contemporary periods is, however, highly conjectural. Even in cases where the dates of a given reign are well-established, considerable doubt may attach to the dating of a particular issue. And except where a coinage was the subject of official withdrawal (action which even in recent years has often left substantial stocks of now demonetised coin unredeemed), calculating length of circulation, whether in terms of half-lives or to extinction, is at best a matter of educated guess-work.

Chronological statements may be qualified in three main ways. In the first place, the reliability of one or other of the year-values may be open to question (e.g. whether the period begins in “year

x" or in "year y"). Secondly, irrespective of the value awarded to one or other year, the precision of the expression may be subject to qualification (e.g. the period commences in "approximately" year x and terminates "no later than" year y). Finally, in the case of issue-dates, the question may arise whether the stated period is intended as the length of time "throughout" which coining is supposed to have taken place or whether the opening and closing years merely delimit a period at a particular moment "within" which the issue was struck.

The difficulty for the compiler of a computerised record arises not from distinguishing the different types of qualification, but from introducing a comment at the appropriate point, since the usefulness of the two substantive fields requires that their numeric character be uncompromised by the introduction either of letters, such as "c.", or of symbols, such as "?". One solution is to write into each chronological expression an "accuracy" statement and three "reliability" sub-fields, one for each of the year-fields and one for the "accuracy"-field itself, the combined length of these additions totalling no more than ten characters in the application suggested here. Note that making provision to record each of these qualifications does not imply that the compiler is required to register a decision in every case. It is, however, a function of the size of a data-bank that the greater the volume of data it contains, the more important it becomes to be able to order, or to search for, material by precise criteria.

A statement of "reliability" may properly be applied to any substantive (i.e. non-systems) field in the database. It is a means both of recording the certainty or otherwise of a given "answer", whether in terms of the particular specimen or in terms of the whole class of coin to which that specimen belongs, and of indicating whether this "answer" alone is applicable or whether it is merely one of two or more possible "readings". Since the "reliability" of a given year is no different from that of any other class of data, it makes sense that a common set of indicators be employed throughout the database. An approach based on a simple numerical code is discussed in the note by P. SERAFIN PETRILLO and members of the Tor Vergata research-seminar included in M. MARCONI, *et al.*, "Studies in computer applications", *Actes du XIe. Congrès International de Numismatique, Bruxelles 1991* (ed. T. HACKENS, *et al.*), 1, Louvain-la-Neuve (forthcoming). Note that since the sub-fields are of alpha-numeric type, the option remains of leaving them "blank".

The form of an "accuracy" statement on chronological expressions is also discussed in the same article, but its rehearsal here is appropriate. It comprises a two-character code entered in a field of alpha-numeric type: the first position qualifies the "year from" value in a particular expression, the second the "year to" value. The five (or seven) qualifications represented by the numerical codes are the same in whichever of the two positions they are used:

- | | | |
|----|---|---|
| 0 | = | unqualified (the default entry) [or "blank"] |
| 1 | = | in that year (applies where the same value is entered in both substantive fields) |
| 3 | = | approximately |
| 4 | = | before/ <i>terminus ante quem</i> |
| [5 | = | in or before] |
| 6 | = | after/ <i>terminus post quem</i> |
| [7 | = | in or after] |

The "accuracy" statement is completed by a single character code which follows the main comment. This refers to the continuity or otherwise of an issue's production during the indicated

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period:

- | | | |
|----|---|--|
| 0 | = | within (the default entry) |
| [1 | = | in that year (applies where the same value is entered in both substantive fields)] |
| 2 | = | throughout |

However uncongenial the format may appear at first glance, and accepting the general criticism of coded “answers” that a mistake in keying is less immediately obvious than is one based on natural language, the economy and precision of a statement represented by “33’0” compared with its free-text equivalent (“sometime during the period beginning approximately in the earlier of the two years and ending approximately in the latter”) should not be discounted. Its principal advantage, however, is to offer a means of setting conditions to, or filters on, complex search commands.

The decision to treat the year-date as a descriptive element, rather than a fully operational expression of the type discussed above, acknowledges the fact that in many cases the date on older coins is either partly off the flan or too poorly preserved for the reading to be certain. To record those dates requires the introduction of editorial marks, such as an “x” to substitute for a “missing” figure; and that, in turn, means that the field-type must be alpha-numeric. In fact, in order to indicate the disposition of the date in relation to the other elements comprising the type, it is usual to include it in the appropriate legend-field, using the same transcription rules as for the main inscription. For ease of sorting, however, there is much to be said for repeating a simplified version of the transcription (viz. figures and/or “x”) in a dedicated field, supported, as appropriate, by a sub-field indicating the era. Literary expressions of the type “second-half of the 5th century BC” are similarly descriptive; if particular applications of the database require such expressions, these, too, should be entered in a dedicated field.

2. Denominational values

The problem associated with entering denominational values is set out in the original note. If full mathematical functions are required, the “value” of the piece must be entered separately from the field containing the “name” of the piece. Thus a numeric field is required, if it is intended to calculate the sum of the values entered in a particular sequence of records or if the user is likely to want to specify as the condition or filter for a search that only values above or below that of a given denomination should be listed.

The most flexible way of doing this is probably to arrange that the figure entered in the numeric field is a “real” value. In the case of a decimalised currency, this is reasonably straightforward. Provided a statement of the unit of currency employed appears either in the “name” field or in a dedicated “currency” field (unless the unit is deemed self-evident from the classification of the coin as an issue of this or that authority), a denomination which is a multiple or fraction can be easily expressed in terms of that unit. For example, in a record in which the currency is either explicitly designated as the “[U.S.A] dollar” or inferred to be such from the identification of the issuing authority as the United States of America, the “dime” or “10-cent”-piece (so described, if desired, in the “name” field) can be entered as “0.10” in the numeric field. But in the case of coinages based on other systems, the unit in terms of which all other denominations are most easily tarified is usually one of the smaller values. So the numeric equivalents of coins of the British imperial (i.e. £. s. d.) system are most conveniently expressed in terms of the “penny”, even if

that does not avoid the clumsiness of converting the "half-" and "third-farthing" into "0.125" and "0.083", respectively.

If, however, the user's need is limited to arranging values in ascending or descending order, this can still be done using a standard field of alpha-numeric-type. It does, however, require that numeric values be padded-out with leading noughts ("0") and that the denomination be expressed in the order: unit (singular) followed by the appropriate numerical qualification, e.g. "cent x 05", "cent-05", or "cent (05)", according to whichever convention for recording multiples best suits the user. This enables different values of the same denomination to be ordered in ascending (i.e. default) order under ordinary Sort or Index commands. A descending order is also possible, but under *dBASE* this works in the former mode only (by adding the operator "/D" to the Sort command). That restriction does not apply, however, to *Paradox for Windows*, where indexes may be run in both ascending and descending orders.

To some, the resulting synthetic expression may appear rather ugly; but as a solution for a single-user database, that is hardly an objection. A difficulty does arise, however, where the database is intended to be used by other students, not to speak of a wider public. For many, the expression "quarter" or "dime" is a more likely search-term than (say) "cent x 25" or "cent x 10". The problem increases, if account is taken of alternative "legal" or authorised names of what is but a single denomination (not to speak of popular or "slang" terms). Take the case of the denomination introduced in the United Kingdom in 1849 as a first step towards decimalisation. This carried the legend "One florin; one tenth of a pound". But later issues describe the same denomination either in conjunction or separately as "One florin" and "Two shillings". To add to the confusion, examples remaining in circulation after decimalisation was finally achieved in 1971 passed as the equivalent of the "10 new pence" piece, a coin deliberately struck to the same weight and module as its predecessor.

There is a limit to the number of "alternative" terms which can be efficiently accommodated in clear text in any database; and the needs of the general public are probably best met by customising the system with, where available, "pull-down" menus which rehearse the available search-terms. But a way of meeting the immediate needs of the professional user is to employ an extended "name" field of (say) 60 characters and to divide the information at a fixed point (in the following example, the divide occurs at position 19 and is indicated by a back-slash). This enables both the synthetic expression and the natural expression (or expressions) to be viewed in a single string, e.g.

"shilling x 02 \two shillings <2-shillings; \florin>"

Any one of the terms present in the string can be the object of a search, using the "\$" operator for a search-term which falls within a specified field (viewing the field in advance under a Browse command should be enough to tell the user which terms the compiler is likely to have used for a particular class of coin). Moreover, each segment can be indexed separately, by adding either "left" or "substr" operators to the Index command, so that the user can choose to view the natural expressions in an order determined by the outcome of an Index or Sort of the synthetic version. Note that in the syntax adopted here the back-slash has the secondary function of identifying single units of a given denomination. For example, the expression "\crown" serves to distinguish the "one crown" piece from the "halfcrown" or (imaginary) "two crowns" piece, which would have been included in any search based on the term "crown" *tout court*.

The complementary question of how to order values through an entire denominational system, e.g. from "third-farthing" to "five-pound piece", remains. As in the case of the numeric field discussed at the beginning of this note, the key lies in converting these values to multiples of a common expression, viz. the "penny". As an alpha-numeric expression, the result is often obscure and thereby off-putting to the outside-user (e.g. the "florin" or "two shilling" piece is tariffed as "penny x 0024"). Therefore, rather than entering the converted expression in the main "name" file, either as an addition to the expressions already discussed or as a replacement for the simpler form of synthetic expression given at the head of that string, the solution offered here is to "hide" the expression in a "shadow"-file and to use the information under a relational setting. Since the contribution of "shadow"-files to the performance of relational databases is discussed by the present writer in a forthcoming article in *Archeologia e Calcolatori* (Roma): "Master-records: a contribution to computer cataloguing" it is necessary merely to summarise here the principal points. So their application in the case of denominational expressions takes the form of a short file into which the data contained in the "name" field is copied from the main-file (either for individual specimens or for master-records only), together with enough of the other fields to allow the relational setting to be established and to provide for adequate validation. The simple synthetic expression is then replaced by that containing the conversion value. An index based on this new expression can then be used under a Set Relation command to order the records held in the main-file. Once in place, there is no need for the user to see the "shadow" data; and depending upon the host-package, the command sequence can be stored as a "macro".

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PNG SCHRIFTEN

PNG Schriften werden entwickelt, um numismatische Umschriften getreu darzustellen. Sie können für Publikationen verwendet werden. Deshalb sind die Schriften für den Computersatz geeignet. Aber auch in numismatischen Datenbanken, die mit EDV erstellt werden, können sie verwendet werden.

Schrifttechnologie

Die Numismatischen Zeichen und Schriften werden mit Hilfe des Computers erstellt. Sie können auch nur von Computern verwendet werden, die die Möglichkeit bieten im Grafikmodus zu arbeiten. Dies ist auf den heute üblichen Rechnern, unter dem Betriebssystem MS Windows (oder Apple McIntosh) möglich.

Die neue Schrifttechnologie verwendet Vektor-Schriften. Früher war es nötig, ähnlich wie im Bleisatzverfahren, pro Schriftgröße verschiedene Dateien zu erstellen. Vektorfonts kommen mit einer Datei aus.

Bei der Anwendung wird die Schriftgröße mitgeteilt. Dann berechnet das Schriftprogramm das Aussehen, die Abstände etc. der einzelnen Buchstaben und stellt sie aufbereitet am Bildschirm in der richtigen Größe und Gestalt dar. Die ganze Schriftgarnitur ist damit in einer Datei enthalten. Die Schriftdatei gibt es in zwei Formaten. Das TrueType Format ist direkt mit MS Windows kompatibel. Es genügt die Schrift zu installieren und sie kann sofort in jeder Windows Applikation eingesetzt werden. Alternativ kann die Schrift als Postscript Datei erzeugt werden. Postscript Dateien spielen im Computersatz bei modernen Druckereien eine große Rolle, denn es ist das Standardformat. Um Postscript auf einem PC nutzbar zu machen, benötigt man ein zusätzliches

Programm z.B. den Adobe Type Manager. Daher ist es zunächst bequem, die Schriften im TTF Format zu benutzen.

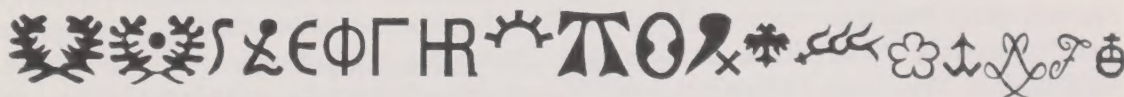
Philosophie der PNG Schriften

In einem Font sind zunächst die Großbuchstaben des Alphabets in einer angepaßten Grundschrift enthalten. Im Bereich der Kleinbuchstaben sind Sonderbuchstaben, Ligaturen, Monogramme plazierte. Sonderzeichen (Rosetten, Symbole, Sterne, Zainhaken, etc.) finden sich dann auch im erweiterten Fontbereich. Es sollte prinzipiell möglich sein eine Umschrift vollständig mit nur einer Schriftart zu formatieren. Dies ist insbesondere für Datenbanken wichtig, wenn die Umschrift in einem Datenfeld eingegeben ist und dann bei der Ausgabe geschlossen formatiert werden muß.

Die Benennung der Schriften erfolgt nach dem Auftakt PNG mit einem Zahlenschlüssel, der in der Regel das Jahrhundert anzeigt, in der die Schrift verwendet werden soll.

R400	Spätromischer Zeichensatz um 400 n Chr.
0600	Merowingerzeit
1000	Zeichen für die fränkische und sächsische Kaiserzeit
1400	Goldgulden und Turnosenzeit
1600	„Klassische Talerzeit“
1800	Moderne Zeit

Es hat sich herausgestellt, daß insbesondere für die Beschreibung von münzreichen Ständen in der Neuzeit viele Sonderzeichen berücksichtigt werden müssen. Daher ist in Planung, für die Stände Habsburg, Brandenburg, Sachsen eigene Fonts zu erstellen. Insbesondere können dann die Zeichen der Münzsätzen und Münzmeister gut untergebracht werden.



Beispiele für PNG Zeichen.

Gebrauch der Schriften

Die Schriften werde wie jede andere Schrift eingesetzt. Großbuchstaben werden von der Tastatur sofort umgesetzt. Um sich einen Überblick zu verschaffen, wie die Sonderzeichen anzusprechen sind, gibt es verschiedene Wege:

In Windows gibt es ein Programm (CHARMAP) bei dem die gesamte Tastaturbelegung auf einen Blick zu sehen ist. Durch Anklicken kann die Zeichenfolge problemlos zusammengestellt werden. Allerdings ist der Export in die Anwendung über die Zwischenablage umständlich. Zusatzprogramme wie z.B. Kyrillica erlauben allerdings ein direktes Schreiben im Anwendungsprogramm (z.B. Winword). Mit Hilfe dieses Programmes ist es sogar möglich, arabisch und hebräisch, von rechts nach links, also schreibrichtig, einzugeben.

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entsprechende Darstellung. Für Interessenten steht eine Demodiskette bereit, die gegen Portoersatz angefordert werden kann unter Adresse: Dr. Wolfgang Becker, Washingtonstr. 17, D-80639 München, Deutschland.

Wolfgang Becker

TÜBINGEN

Die Münzsammlung der Universität Tübingen verfügt über derzeit rund 50.000 zumeist mittelalterliche Münzen der islamischen Welt.

Die Erfassung dieses Materials in der Forschungsstelle für islamische Numismatik erfolgte ursprünglich mit dem Textverarbeitungsprogramm Word, wodurch rund 35.000 Stücke aufgenommen wurden. Um aus diesen reinen Textdateien strukturierte Datensätze zu erstellen, wurde auf das Tübinger System von Textverarbeitungs-Programmen (TUSTEP) zurückgegriffen. Die Dateien wurden hierzu mit dem TUSTEP-Konvertierungsprogramm umgewandelt, das Texte der gängigen Textverarbeitungsprogramme (MS Word, WordPerfect, PC-Write, Wordstar) sowie ASCII-Texte in TUSTEP-Dateien (und umgekehrt) konvertiert.

Die Verwaltung und Bearbeitung der Datensätze mit TUSTEP weist mehrere Vorteile auf: So erlauben die TUSTEP internen Zeichensätze eine vollständige Darstellung der arabisch- und anderssprachigen Münzaufschriften sowie die Anwendung der in der deutschen Orientalistik üblichen Transkriptionsregeln der deutschen Morgenländischen Gesellschaft. Darüber hinaus ermöglicht TUSTEP den wissenschaftlichen Umgang mit strukturierten Daten. Konvertierung und Strukturierung der ursprünglichen Word-Dateien wie auch das Einfügen der Sylloge-Daten (s.u.) in die bereits bestehenden Münzdatensätze erfolgt(e) in mehreren Schritten sowohl über komplexe TUSTEP-Kopiere- und Einfüge-Programme als auch über automatisierte Austausch-anweisungen direkt im Texteditor.

Die Angaben zu den Münzen wurden hierzu in folgende Kategorien eingeteilt: laufende Nummer (vom Programm vergeben), Dynastie, Herrscher, Nominal, Münzstätte/Region, Prägejahr, Metall, Gewicht, Aufschriften, Literaturzitate, Provenienz, Bemerkungen, Inventarnummer, Bildnummer. Von diesen 14 Kategorien sind bislang sieben vollständig, die anderen nur zum Teil ausgefüllt.

Über TUSTEP interne Such- und Druckmakros können diese Kategorien in den 25 – nach Dynastien geordneten – Münzdateien abgefragt werden. Dabei können in allen oder in ausgewählten Dateien Münzen nach einer oder mehreren Kategorien gesucht, sortiert und ausgedruckt werden.

Da das Programm den Einsatz von vor- und selbstdefinierten Zeichen- und Stringgruppen erlaubt, wird die Suche nach Begriffen mit unterschiedlicher Schreibweise sehr erleichtert.

Auch die zur Zeit entstehenden Bände der *Sylloge Numorum Arabicorum* Tübingen werden mit TUSTEP erstellt, das über ein umfassendes Satzprogramm verfügt. Die durch die Syllogetexte neu hinzugekommenen Daten werden über Konkordanzen von Sylloge- und Inventarnummern den bestehenden Münzdatensätzen zugeordnet bzw. in einen eigenen Datensatz kopiert. So gelangen auch die Daten von Neuzugängen der Sammlung und von Münzen aus Sonderbeständen (Deposita u.ä.) welche zunächst nur handschriftlich inventarisiert werden, im Rahmen der Syllogetextbearbeitung in die TUSTEP-Datensätze.

Corinna Fischer

COMPUTER SURVEY (3)

Additional answers to the questionnaire have been received and we will continue to publish the

data. This is bound to take some time and thus **we also welcome updated or additional information from those who have already replied to the questionnaire.** A list of museums, institutions etc., which have been approached with the questionnaire, is enclosed with this issue.

Germany

This time a survey of the answers will be made based on the data received from Germany, which has the largest number of users.

No computer activities at the moment are reported from Württembergisches Landesmuseum, Stuttgart. The following are planning computer activities or are at present not using a database program: "Griechisches Münzwerk", Berlin-Brandenburgische Akademie der Wissenschaften, Berlin; Münzkabinett der Staatlichen Museen, Berlin; Städtisches Museum, Braunschweig; Münzkabinett der Staatlichen Kunstsamlungen Dresden; Münzkabinett der Museen der Stadt Gotha; Germanisches Nationalmuseum, Nürnberg.

That leaves ten museums/institutions which at present have a system in operation where coins and/or finds are being recorded using a database program: Historisches Institut, Abt. Alte Geschichte, Heinrich-Heine-Universität, Düsseldorf; Fundmünzen der Antike, Universität Frankfurt, Frankfurt; Niedersächsisches Landesmuseum, Hannover; Niedersächsisches Münzkabinett der Deutschen Bank, Hannover; Allgäuer Heimatmuseum, Kempten; Historisches Institut, Seminarium für Alte Geschichte, Universität Mannheim, Mannheim; Staatliche Münzsammlung, München; Westfälisches Landesmuseum, Münster; Geschichtliches Landeskunde, Universität Trier, Trier; Forschungsstelle für Islamische Numismatik, Universität Tübingen, Tübingen.

The summary below provides a profile of computer activities at the time of the survey (1993/1994). Regarding operating systems the survey includes those who use computers without database operations, since they are unlikely to change system in the future.

Operating systems (some use more than one system)

DOS	Unix
11	2

Database programs (some use more than one system)

dBASE	HIDA	TUSTEP	Others (6 different)
5	2	2	1 each

Number of records in databases (many have only just started)

1-9,999	10,000-49,999	50,000-99,999	>100,000
6	3	1	-

Categories

Ancient	Middle Ages	Modern	Oriental	General	Finds	Medals	Literature
3	1	2	1	4	4	1	1

Two museums/institutions use Unix, while the remainder use the DOS-system. It is surprising that nobody employs Macintosh, which on a worldwide basis accounts for 24% of the systems

employed by numismatists.

The diversity is much more pronounced among programs used for databases. No less than nine different programs are used with dBASE as the favorite. Images are only recorded at Munich, where MultiCoin is used.

The databases at present are listed below.

<i>Museum/institution</i>	<i>No. of records</i>	<i>Items recorded</i>
Düsseldorf	55,000	Greek and Roman coins
Frankfurt	6,000	Finds of ancient coins in Germany and elsewhere
Hannover (Landesmuseum)	?	Numismatic objects in the collection
Hannover (Deutsche Bank)	32,000	Coins and medals, literature
Kempten	?	Coins (from Kempten)
Mannheim	4,600	Coins of Rome and Kurpfalz, finds from Pfalz
München	?	Coins and finds
Münster	?	Museum acquisitions
Trier	27,650	Mints (Rhine/Maas), excavated hoards, other finds
Tübingen	35,000	Islamic coins

There are at least four large databases (where no figures are provided they have been listed in the 1-9,999 category in the summary). Progress is especially rapid at Frankfurt where 50,000 records are expected to be added this year.

The databases can be provided in some form (printed or on diskette) except from Trier (where they will be published), Mannheim and Münster. Most databases are also going to be published gradually.

Museums in general have not started to create databases on a large scale, while institutions appear to have come further. Many databases include a wealth of information and this will no doubt often slow down the rate at which coins etc. are recorded. It also depends on whether the aim of the databases is to record the objects to provide a catalogue or to use it as a research tool. Museums, with their often large collections, will face a long and slow process before their databases will achieve the size and importance which make them into indispensable tools. Institutions can more easily target their work towards areas of special interest and thus be able to benefit rapidly from the databases.

Kenneth Jonsson

EDITORIAL SECTION

CCN is a semi-annual newsletter published in the spring and at the end of the year. The aim is to provide information to all interested in numismatics who are also working with computers. The name of the newsletter has been chosen for convenience only and it encompasses all branches of numismatics: coins, banknotes, medals, tokens etc. from ancient Greece to modern times.

We envision a wide selection of subjects, but also regular topics which might include: past and future conferences, reports from museums/institutions on their work, current projects, debate, publications etc. *CCN* (the acronym for the newsletter) depends upon reader contributions to fulfil its purpose.

CCN is currently supplied free of charge and distributed to all INC/CIN members and others interested.

There is evidently a great demand for information about data and numismatics. However, there is no backlog of manuscripts waiting to be included in the next issue of *CCN*. Thus we urge readers who have information, comments or questions to contribute which might be of interest to others to send it to us. Reports on computer activities at museums, institutions etc. are also welcome. Reviews of literature where computers have been adopted are also appreciated.

Contributions to *CCN* should preferably be delivered to one of the editors as ASCII, Wordperfect or Pagemaker files on disk. The present editors regret that they can only use disk operating under the DOS system. However, contributions can also be delivered typed on paper. Contributions are accepted in English, French, and German. Proofs are not sent to the contributors. Deadline for contributions are 15 May and 15 November. Illustrations are preferably limited to line drawings because we use a simple copying machine to "print" *CCN*.

If this is the first number of *CCN* you have received, please fill out the subscription form at the back if you wish to continue to receive *CCN* in the future. Those who have already indicated in the questionnaire that they wish to receive information in the future do not need to fill out the form.

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SUBSCRIPTION FORM TO BE SENT TO THE EDITORS

Yes, I/we want to receive CCN in the future

Name:

Museum/institution:

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Street:

City:

Country:

Telephone:

Fax:

Modem:

☐ I want to receive the questionnaire about computers/databases

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CONFERENCE FORM TO BE SENT TO THE EDITORS

I/we plan to arrange a conference on numismatics and data

Contact person:

Museum/institution:

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Telephone:

Fax:

Subject(s):

.....

Number of participants:

Location:

Date:

Costs:

Open to all interested? ☐ Yes ☐ No